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| Abstract                  | <p>Delays on a common radio communications channel employed by plural mobile stations to communicate with a base station located in a corresponding geographical cell area are minimized by adapting transmission power based on traffic conditions. For lower traffic loads, a higher transmission power is permitted. For higher traffic loads, a lower power level is set. A transmit power level is determined using a desired signal ratio, such as a target CIR, a transmission path loss over the radio communications channel, and an interference value. One or more adaptive power parameters are also employed in that determination to adapt the open loop power control based on one or more current communications conditions and/or characteristics of the mobile station. For example, an adaptive power parameter may be a function of a current interference in a base station cell either alone or in combination with a current interference in one or more neighboring cells. The adaptive power parameter may also account for a type of data packet connection to be employed between the mobile station and the base station after random access, a mobile station's subscription, a current temperature of the mobile station, a current base station used by the mobile station, a current estimated path loss between the mobile station and base station, and/or other factors.</p> |